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Date: April 7, 2017

Chief, Multimedia Permits and Compliance Branch  
Caribbean Environmental Protection Division  
U.S. Environmental Protection Agency, Region 2  
City View Plaza II, Suite 7000  
48 RD. 165 Km. 1.2  
Guaynabo, Puerto Rico 00968-8069

RE: Notification of Closure of Administrative Order on Consent Transmittal of Enforcement Case  
Support Inspection Report Request to Provide Information and Respond to Inspection's Findings

Dear Jose:

On March 18, 2015 AES Puerto Rico LP ("AES-PR") and the United States Environmental Protection Agency ("EPA") entered into Administrative Order on Consent ("AOC") Number CWA-02-2015-3102, under which AES-PR is obligated to comply with certain requirements (AOC Section VII, Ordered Provisions). All capitalized terms in this letter shall have the meaning as defined in the AOC.

This communication is in response to your Enforcement Case Support Inspection providing comments, findings and areas of concern that require response as requested on the February 17, 2017 letter.

A handwritten signature in blue ink, appearing to read "Manuel Mata", written over a horizontal line.

Manuel Mata  
President AES Puerto Rico  
Attachments

**Notification of Closure of Administrative  
Order on Consent  
Transmittal of Enforcement Case Support  
Inspection Report**

Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."



\_\_\_\_\_  
Manuel Mata  
President AES Puerto Rico

4/7/2017

\_\_\_\_\_  
Date

April 7, 2017

**VIA UPS**

Mr. José A. Rivera  
Clean Water Act Team  
Caribbean Environmental Protection Division  
US Environmental Protection Agency, Region 2  
City View Plaza, Suite 7000  
#48 165 RD Km 1.2  
Guaynabo, PR 00968-8069

**Re: Notification of Closure of Administrative Order on Consent  
Transmittal of Enforcement Case Support Inspection Report  
Request to Provide Information and Respond to Inspection's Findings**

Dear Mr. Rivera:

We acknowledge receipt of your Enforcement Case Support Inspection letter on February 24, 2017 regarding the evaluation of AES's compliance with the Administrative Compliance Order (ACO), and the National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit. As established in the Enforcement Case Support Inspection letter, AES-PR had forty five (45) calendar days from the receipt of the letter to submit a response.

AES-PR is hereby addressing each of the comments, findings and areas of concern that require response as requested on the Enforcement Case Support Inspection letter of February 16, 2017.

The following presents AES-PR's response to EPA general comments noted during the **Facility walkthrough**:

➤ ***EPA Comment 7.a:***

- A discharge was not observed thru Outfall 001. The sampling location was clean and free of debris.

*AES-PR Response: AES Puerto Rico agrees.*

➤ ***EPA Comment 7.b:***

- A discharge was not observed thru Outfall 003. The sampling location was clean and free of debris.

*AES-PR Response: AES Puerto Rico agrees.*

➤ **EPA Comment 7.c:**

- A discharge was not observed thru Outfall 003. The sampling location had overgrown vegetation, which if not maintained, may prevent AES from taking a representative sample for its visual assessment of storm water discharges and benchmark monitoring required by AOC and the 2015 MSGP.

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 7<sup>th</sup> Quarterly Progress Report.*

The following address the Inspector's observations during the Facility walkthrough for each of the Control Measures required in the **2015 MSGP**:

➤ **EPA Finding 7.d.1:** (Minimize Exposure- 2015 MSGP Part 2.1.2.1)

- Storage exposed to precipitation was observed in areas near a storage warehouse, which is located near the heavy equipment mechanical shop.

*AES-PR Response: The MSGP seeks to minimize exposure of storage areas in order to minimize pollutant discharges. However, "industrial materials do not need to be enclosed or covered if storm water runoff from affected areas does not discharge pollutants to receiving waters." That is the case here. The observed materials in that area are inert materials which are not affected by storm water. These materials include new vacuum hoses, new refractory bricks and new conveyor belts.*

➤ **EPA Finding 7.d.2:** (Good Housekeeping- 2015 MSGP Part 2.1.2.2)

- AES purchased a mechanical sweeper vehicle, but was not in use at the time of the inspection due to a flat tire.

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 7<sup>th</sup> Quarterly Progress Report.*

➤ **EPA Finding 7.d.3:** (Maintenance- 2015 MSGP Part 2.1.2.3)

- Adequate maintenance of the storm water collection system on the south and north side of the Agremax and Coal storage piles was observed. Lack of maintenance to the channel that conveys runoff from the power generation area to the Agremax storage pile area was observed.

*AES-PR Response: AES-PR agrees that it is properly maintaining the storm water collection system on the south and north sides of the Agremax inventory and coal storage piles. Housekeeping of this area is performed by personnel from AES-PR's Coal Combustion Products team. On the day of EPA's observations, the channel was maintained and cleaned at the end of the daytime shift, as is done on a daily basis.*

➤ **EPA Finding 7.d.3:** (Maintenance- 2015 MSGP Part 2.1.2.3)

- Repair and maintenance of the CCR truck loading building was undergoing.

*AES-PR Response: AES Puerto Rico agrees the work was ongoing.*



➤ **EPA Finding 7.d.3:** (Maintenance- 2015 MSGP Part 2.1.2.3)

- The super silt fence located on the west side of the coal storage pile required a replacement.

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 7<sup>th</sup> Quarterly Progress Report.*

➤ **EPA Finding 7.d.3:** (Maintenance- 2015 MSGP Part 2.1.2.3)

- Soil stabilization practices were implemented in the drainage areas near Outfall 002, which is located on the southeast area of the Plant.

*AES-PR Response: AES Puerto Rico agrees it has implemented these practices.*

➤ **EPA Comment 7.d.4 :** (Management of Runoff- 2015 MSGP Part 2.1.2.6)

- AES should evaluate the diversion and reuse of the first flush in all storm water discharges thru Outfall 002 to bring the discharges into compliance with the requirements of the 2015 MSGP.

*AES-PR Response: In light of quarterly benchmark sampling results from the first two quarters of 2016, AES-PR has taken appropriate responsive measures following the direction in the 2015 MSGP. The data from the last two quarters of 2016 indicate the measures AES-PR selected have been effective*

*AES Puerto Rico completed quarterly benchmark monitoring of Outfall 002 during 2016. During the 1<sup>st</sup> and 2<sup>nd</sup> monitoring quarters, the average of the four monitoring values for Total Aluminum (Total Al) and Total Iron (Total Fe) parameters exceeded the benchmark value. In accordance with Part 4 of 2015 MSGP, AES-PR reviewed the selection, design, installation, and implementation of control measures at the Outfall 002 drainage area. Based on that review, AES-PR modified its storm water best management practices (BMPs) in that area. The corrective actions taken were documented for EPA in AES-PR's 5<sup>th</sup> and 6<sup>th</sup> Quarterly Progress Reports.*

*Sampling results for Outfall 002 from the 3<sup>rd</sup> and 4<sup>th</sup> monitoring quarters showed the Total Al and Total Fe were below the applicable benchmark levels. This indicates that BMP modifications performed at this drainage area were effective. Monitoring results were documented and submitted to EPA in the 7<sup>th</sup> and 8<sup>th</sup> Quarterly Reports.*

➤ **EPA Finding 7.d.4 :** (Management of Runoff- 2015 MSGP Part 2.1.2.6)

- The Storm Water Pond was found in operation.

*AES-PR Response: AES Puerto Rico agrees.*

➤ **EPA Finding 7.d.5 :** (Dust Generation & Vehicle Tracking of Industrial Materials- 2015 MSGP Part 2.1.2.12)

- This requirement, and paragraphs 72.c and 73 of the ACO, are addressed elsewhere below.

*AES-PR Response: See AES Puerto Rico response below.*

- **EPA Finding 7.d.6:** (Fugitive Dust Emissions- 2015 MSGP Part 8.O.4.1)
- The water sprinkler system was in operation.

*AES-PR Response: AES Puerto Rico agrees.*

- **EPA Finding 7.d.6:** (Fugitive Dust Emissions- 2015 MSGP Part 8.O.4.1)
- This requirement, and paragraphs 72.c and 73 of the ACO, are addressed below.

*AES-PR Response: See AES Puerto Rico response below.*

- **EPA Finding 7.d.7:** (Ash Loading Areas- 2015 MSGP Part 8.O.4.11)
- Repair and maintenance to the CCR truck loading building was undergoing.

*AES-PR Response: AES Puerto Rico agrees that work was ongoing.*

- **EPA Finding 7.d.8:** (Areas Adjacent to Disposal Ponds- 2015 MSGP Part 8.O.4.12)
- Exposed materials and equipment was observed between the Limestone Dome and coal storage pile.

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 7<sup>th</sup> Quarterly Progress Report.*

- **EP Finding 8:** (Other Findings)
- AES has not modified the most recent version of the SWPPP prepared for the Facility to include and/or make reference to the Dust Control Standard Operating Procedure (“Dust Control SOP” or “Dust Control Plan”) prepared for the Plant. The EPA Inspector reviewed the Dust Control SOP, and its comment are provided elsewhere below in this Report.

*AES-PR Response: The SWPPP version at the time had not been modified to make reference to the Dust Control SOP since AES Puerto Rico was waiting for EPA's review and approval. Notwithstanding, AES Puerto Rico had already implemented the Dust Control SOP submitted to EPA. See response below to comments on the Dust Control SOP.*

The following provides AES-PR'S response to EPA's evaluation of AES compliance with the ordered Provisions included in the **AOC**.

- **EPA Comment:** (Paragraph 65 of the ACO)
- This Report provides an evaluation of AES compliance with the AOC and the 2015 MSGP. The EPA Inspector is not making a determination about AES's compliance with this Provision of the AOC.

*AES-PR Response: Paragraph 65 requires AES compliance with Clean Water Act, implementing regulations, the MSGP and any other applicable permit under the Act. AES Puerto Rico submits that it is in compliance with Paragraph 65.*



➤ **EPA Comment:** (Paragraph 66 of the ACO)

- On March 20, 2015, AES sent to EPA the following MDMR forms, including supporting documentation (i.e., Laboratory Reports, Chain of Custody Records):
  - ✓ MDMR dated March 17, 2015 (corresponded to the October to December 2013 period);
  - ✓ MDMR dated March 17, 2015 (corresponded to the January to March 2014 period);
  - ✓ MDMR dated March 19, 2015 (Outfalls 002 and 004 only; corresponded to the April to June 2014 period);
  - ✓ MDMR dated January 17, 2015 (Outfall 003 only; corresponded to the April to June 2014 period);
  - ✓ MDMR dated January 17, 2015 (corresponded to the July to September 2014 period);
  - ✓ MDMR dated January 17, 2015 (corresponded to the October to December 2014 period); and
  - ✓ MDMR dated March 9, 2015 (corresponded to the January to March 2015 period);
- No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*

➤ **EPA Comment:** (Paragraph 67 of the ACO)

- By letter dated April 13, 2015, AES submitted to EPA the **SW Sampling SOP**, which was signed and dated on April 13, 2015. EPA's comments concerning the SW Sampling SOP are provided below:
  - ✓ **Page 1** - The Approvals Section was left blank;
  - ✓ **Page 3** – The Purpose Section should be modified to reflect the 2015 MSGP requirements;
  - ✓ **Page 3** – The Responsibilities Section can include the Storm Water Compliance Coordinator;
  - ✓ **Page 4** – The 2015 MSGP sector applicable to the Facility is Sector O, Steam Electric Generating Facilities. The SOP should be revised accordingly;
  - ✓ **Page 8** – The Review and Reporting Section does not provide for the signatory authorities for the MDMRs. Note that under the 2015 MSGP, MDMRs are submitted to EPA electronically;
  - ✓ **Page 10** – Update the Revision History Section;
  - ✓ **Appendix 3** – Include in the Storm Water Quarterly Visual Assessment Flowchart the time that the sampling personnel has to inspect the sample taken and the timetable for the preparation of sampling documentation;
  - ✓ **Appendix 5** – Include in the Storm Water Benchmark Monitoring Flowchart the time AES has to submit the MDMR once the laboratory reports is received by AES;
  - ✓ **Appendix 10** – Complete the Approvals Section on page 1 of the Rain Gauge SOP.
- AES should revise its SW Sampling SOP according the comments above.

*AES-PR Response: The SW Sampling SOP submitted to EPA had not been signed by AESPR management pending EPA review and approval. Notwithstanding, AES Puerto Rico had already implemented it at the time. The SW Sampling SOP has been modified to address EPA comments.*

➤ **EPA Comment:** (Paragraph 68 of the ACO)

- AES conducted benchmark monitoring and analyzed samples in accordance with the requirements of the AOC.
- No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*

➤ **EPA Comments:** (Paragraph 69 of the ACO)

- On March 20, 2015, AES submitted to EPA a MDMR form, dated March 9, 2015, and supporting documentation (i.e., Laboratory Reports, Chain of Custody Records) corresponding to the January to March 2015 period.
- On July 30, 2015, AES submitted to EPA a MDMR form, dated July 28, 2015, and supporting documentation (i.e., Laboratory Reports, Chain of Custody Records) corresponding to the April to June 2015 period.
- On October 14, 2015, AES submitted to EPA a MDMR form, dated August 28, 2015, and supporting documentation (i.e., Laboratory Reports, Chain of Custody Records) corresponding to the July to September 2015 period.
- On January 15, 2016, AES submitted to EPA a MDMR form, dated January 15, 2016, and supporting documentation (i.e., Laboratory Reports, Chain of Custody Records) corresponding to the October to December 2015 period.
- No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*

➤ **Comment:** (Paragraph 70 of the ACO)

- On March 25, 2015, AES submitted to EPA a report describing each action taken, photo-documentation and an updated BMPs Matrix table.
- No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*



➤ **EPA Comment:** (Paragraph 71 of the ACO)

- On March 20, 2015, AES submitted to EPA its Annual Comprehensive inspection Report for the January to December 2012 period, including the Annual Reporting Form, which was signed and dated January 17, 2013.
- On March 25, 2015, AES submitted to EPA its Annual Comprehensive inspection Report for the January to December 2013 period, including the Annual Reporting Form, which was signed and dated March 17, 2014.
- On May 11, 2015, AES submitted to EPA its Annual Comprehensive inspection Report for the January to December 2014 period, including the Annual Reporting Form, which was signed and dated January 23, 2015.
- On October 14, 2015, AES submitted to EPA its Annual Reporting Form, which was signed and dated October 14, 2015. This Annual Reporting Form pertained to the January to December 2015 period. AES did not submit the Annual Comprehensive Inspection Report corresponding to the same period in this submittal. However, AES submitted the Annual Comprehensive Inspection Report in its QPR, dated January 14, 2016.
- No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*

➤ **EPA Comment:** (Paragraph 72 of the ACO)

- By letter dated June 8, 2015, AES submitted to EPA a draft POA. EPA's comments concern its review of the draft POA are provided below:
  - ✓ **Subparagraphs 72.a** – AES addressed the requirements of this subparagraph in the POA. No further action is required concerning subparagraph 72.a of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*

- ✓ **Subparagraphs 72.b** – AES addressed the requirements of this subparagraph in the POA. No further action is required concerning subparagraph 72.b of the AOC.

*AES-PR Response: AES Puerto Rico agrees no further action is required.*

- Comments on Subparagraph 72.c concerning the Facility **Dust Control Plan** are presented below:
  - ✓ **Page 1-** *The Approvals Section was left blank;*
  - ✓ **Page 3 – Part 1 (Purpose)** *makes reference to the 2008 MSGP. Amend to reflect requirements for the 2015 MSGP;*
  - ✓ **Page 4 – Part 3.2 and 3.3 (Responsibilities)** *do not provide for documentation describing the rationale for limiting and/or ceasing operation to minimize dust generation and emissions;*
  - ✓ **Page 5 –Section 6 (Controls)** *provides the monitoring schedules for each practice. The Plant operates 24-hours / 7 days week basis. The Dust*

*Control Plan should describe the controls and the monitoring schedule for the evening hours;*

- ✓ **Page 6** –Section 6 (Controls) indicates that AES will use a daily operational inspection checklist to monitor the implementation and effectiveness of the control measures. A copy of the checklist was attached to the draft Dust Control Plan. The checklist did not include the areas in which coal combustion residuals are generated at the power generation areas of the Plant;
- ✓ **Page 9** –Subsection 6.3 (Stockpile) indicates that windbreaks are not practical controls for the Agremax stockpile. The Dust Control Plan should include the design and implementation of windbreaks to provide a permanent structural best management practice;
- ✓ **Appendix 1** –The maps for the Plant and Dock did not include dust generation from the coal combustion process in the power generation areas of the Plant;
- ✓ **Others** –The Dust Control Plan did not provide for other mechanical dust control measures (e.g., vacuum collection systems) in the coal combustion generation and transfer areas;

*AES-PR Response: The Dust Control Plan submitted to EPA had not been signed by AESPR management pending EPA review and approval. Notwithstanding, AES Puerto Rico had already implemented it at the time. The Dust Control Plan has been modified to address EPA comments, except that AESPR maintains that windbreaks are not necessary. As explained in the modified Dust Control Plan, the Agremax stockpile consists of a manufactured aggregate that forms a solid crust on the surface of the stored material. Therefore, the existing procedures, which include regular inspections and operation of a sprinkler system, provide efficient and more than sufficient dust control coverage of the Agremax inventory. These measures also provide appropriate operational adaptability to allow AESPR to respond to changing conditions, if necessary. Moreover, there are no data or other observations to indicate that a windscreen would effectively reduce dust or that AES Puerto Rico has exceeded any applicable dust emissions criteria or benchmark levels warranting further action under EPA's 2015 stormwater permit. In addition, as EPA knows, AES Puerto Rico's Title V operating permit addresses fugitive emissions and regular inspections and observations based on EPA Method 22 have been implemented to comply with the facility's operating permit requirements. As such, with all of these measures in place, AES Puerto Rico submits that the design and implementation of windbreaks is not necessary.*

➤ **EPA Comment:** (Paragraph 73 of the ACO)

- The POA was signed and certified by a licensed engineer authorized to conduct the engineering profession in the Commonwealth of Puerto Rico.
- Any further amendments to the POA should comply with this Provision of the AOC.

*AES-PR Response: AES Puerto Rico complied with this requirement and will continue to do so.*



- **EPA Comment:** (Paragraph 74 of the ACO)
- AES compliance with this Provision of the AOC cannot be determined at this time.

*AES-PR Response: No response is required.*

- **EPA Comment:** (Paragraph 75 of the ACO)
- By letter dated May 16, 2015, AES notified EPA that it had hired the Coordinator. The Coordinator was present during the inspection. No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees that no further action is required.*

- **EPA Comment:** (Paragraph 76 of the ACO)
- See comment for paragraph 75 above. No further action is required concerning this Provision of the AOC.

*AES-PR Response: AES Puerto Rico agrees that no further action is required.*

- **EPA Comment:** (Paragraph 77 of the ACO)
- On April 1, 2015, AES submitted to EPA its first QPR (March 18 to March 31, 2015), which was signed and dated March 26, 2015. AES did not include any cost report in its first QPR.

*AES-PR Response: An updated cost report is included with this reply.*

- **EPA Comment:** (Paragraph 77 of the ACO)
- On July 13, 2015, AES submitted to EPA its second QPR (April to June 2015 period), which was dated July 10, 2015. A review of the cost report in this QPR revealed that AES did not provide the expenses incurred and will incur concerning the Storm Water Compliance Coordinator (annual basis), visual assessment of storm water discharges and benchmark monitoring, preparation of POA and preparation of the SW Sampling SOP.

*AES-PR Response: An updated cost report is included with this reply.*

- **EPA Comment:** (Paragraph 77 of the ACO)
- On October 14, 2015, AES submitted to EPA its third QPR (July to September 2015 period), which was signed and dated October 14, 2015. AES did not include any cost report in its third QPR.

*AES-PR Response: An updated cost report is included with this reply.*

- **EPA Comment:** (Paragraph 77 of the ACO)
- On January 14, 2016, AES submitted to EPA its fourth QPR (October to December 2015 period), which was signed and dated January 14, 2016. AES did not include any cost report in its fourth QPR.

*AES-PR Response: An updated cost report is included with this reply.*

➤ **EPA Comment:** (Paragraph 77 of the ACO)

- On April 15, 2016, AES submitted to EPA its fifth QPR (January to March 2016 period), which was signed and dated April 15, 2016. AES did not include any cost report in its fifth QPR.

*AES-PR Response: An updated cost report is included with this reply.*

➤ **EPA Comment:** (Paragraph 77 of the ACO)

- On July 15, 2016, AES submitted to EPA its sixth QPR (April to June 2016 period), which was signed and dated July 14, 2016. AES did not include any cost report in its sixth QPR.

*AES-PR Response: An updated cost report is included with this reply.*

➤ **EPA Comment:** (Paragraph 77 of the ACO)

- On July 15, 2016, AES submitted to EPA its seventh QPR (July to September 2016 period), which was signed and dated October 14, 2016. AES did not include any cost report in its seventh QPR.

*AES-PR Response: An updated cost report is included with this reply.*

➤ **EPA Comment:** (Paragraph 90 of the ACO)

- On September 6, 2016, AES submitted to EPA a request for termination of the AOC. This matter is not addressed in this Report.

*AES-PR Response: AES Puerto Rico submits the AOC should be terminated and EPA has agreed.*

The following provides AES-PR's responses to EPA's comments concerning **Benchmark Monitoring**:

➤ **EPA Comment:** (fifth QPR)

- By letter dated April 15, 2016, AES sent to EPA its fifth QPR, which included MDMRs, dated April 15, 2016. A review of the MDMRs, Chain of Custody Records and laboratory analysis report revealed that:
  - ✓ The benchmark value of 1 mg/l for Iron was exceeded (1.18 mg/l) at outfall 001;

*AES-PR Response: AES Puerto Rico corrective action was performed and documentation was submitted to EPA with the 5<sup>th</sup> Quarterly Progress Report.*

- ✓ The benchmark value of 0.75 mg/l for Aluminum and 1 mg/l for Iron were exceeded (17.1 mg/l and 14 mg/l, respectively) at outfall 002; and



*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 5<sup>th</sup> Quarterly Progress Report.*

- ✓ The CCR did not indicate the method of preservation [e.g., Nitric Acid (HNO<sub>3</sub>), pH<2], the sample type (e.g., grab vs. composite) and sampling method (e.g., automatic sampler vs. manual sampling) for outfalls 001, 002 and 003.

*AES-PR Response: Chain of custody records included with the fifth QPR indicated that method of preservation of sample was cool (preservative code = 1) and that the sample type was grab (sample type legend = x). Although sampling method was not indicated, these samples were collected with the automatic sampler.*

➤ **EPA Comment:** (sixth QPR)

- By letter dated July 15, 2016, AES sent to EPA its sixth QPR, which included MDMRs, dated May 23, 2016. A review of the MDMRs, Chain of Custody Records and laboratory analysis report revealed that:
  - ✓ The benchmark value of 1 mg/l for Iron was exceeded (1.18 mg/l) at outfall 001;

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 6<sup>th</sup> Quarterly Progress Report.*

- ✓ The benchmark value of 0.75 mg/l for Aluminum and 1 mg/l for Iron were exceeded (4.69 mg/l and 8.3 mg/l, respectively) at outfall 002; and

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 6<sup>th</sup> Quarterly Progress Report.*

- ✓ The CCR did not indicate the method of preservation [e.g., Nitric Acid (HNO<sub>3</sub>), pH<2], the sample type (e.g., grab vs. composite) and sampling method (e.g., automatic sampler vs. manual sampling) for outfalls 001, 002 and 003.

*AES-PR Response: Chain of custody records included with the sixth QPR indicated that method of preservation of sample was cool (preservative code = 1) and that the sample type was grab (sample type legend = x). Although sampling method was not indicated, these samples were collected with the automatic sampler.*

➤ **Comment:** (seventh QPR)

- By letter dated October 15, 2016, AES sent to EPA its seventh QPR, which included MDMRs, dated September 9 and October 5, 2016. A review of the QPR revealed that:


- ✓ A sample was not taken at outfall 001 for the July to September 2016, and

*AES-PR Response: A corrective action was performed and documentation was submitted to EPA with the 7<sup>th</sup> Quarterly Progress Report.*

- ✓ A copy of the CCRs and laboratory analysis and report for outfalls 002 and 003 were not included.

*AES-PR Response: Copies of the chain of custody records and laboratory analysis and report for outfalls 002 and 003 are included with this reply.*


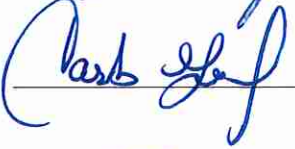

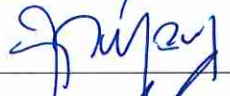

## **Appendix 1: Dust Control Plan**

	Title: Coal Combustion Residuals and Agremax Dust Control Plan		Doc #: SOP-CCP-004	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: i of 2
	Reviewed by: Carlos M. Gonzalez	Area: CCP Area		Effective Date:	Review Date:	Rev #: 3

## **Title:**

Coal Combustion Residuals and Agremax™ Dust Control Plan


## **Approvals:**

	Signature	Date
Approved by: Pedro Labayen		4/7/17
Reviewed by: Carlos M. Gonzalez		4/7/17
Environmental Coordinator Hector Avila		4/7/17
Elias Sostre Operations Manager		4/10/17
Manuel Mata President		4/7/17

## **Distribution List:**


1. CCP Area
2. Material Handling
3. Environmental Coordinator
4. Operations & Maintenance Area
5. Plant Manager



	Title: Coal Combustion Residuals and Agremax Dust Control Plan	Doc #: SOP-CCP-004	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: ii of 20
	Reviewed by: Carlos M. Gonzalez	Area: CCP Area	Effective Date:	Review Date:	Rev #: 3

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	Title: Coal Combustion Residuals and Agremax Dust Control Plan	Doc #: SOP-CCP-004	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: iii of 20
	Reviewed by: Carlos M. Gonzalez	Area: CCP Area	Effective Date:	Review Date:	Rev #: 3

## Appendices

Appendix 1 Dust Control Maps

Appendix 2 Dust Control Inspection Checklist

Appendix 3 Dust Control Activity Flowchart

Appendix 4 Citizen Complaints Log


Appendix 5 Dust Control Training Syllabus

Appendix 6 Employee Training Attendance Form

Appendix 7 Weekly Stockpile Inspection Form

Appendix 8 Annual CCR Fugitive Dust Control Reports

Appendix 9 Annual Inspection Reports

	Title: Coal Combustion Residuals and Agremax Dust Control Plan	Doc #: SOP-CCP-004	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 1 of 20
	Reviewed by: Carlos M. Gonzalez	Area: CCP Area	Effective Date:	Review Date:	Rev #: 3

## 1. Purpose

This Standard Operating Procedure (SOP) identifies methods to prevent, reduce or mitigate fugitive dust from the coal combustion residuals (CCRs) and Agremax™ handling activities at the AES-PR site.


The primary purpose of this SOP is to explain how the requirements in Section 2.1.2.12 of the US Environmental Protection Agency's (EPA) 2015 Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (2015 MSGP) - Dust Generation and Vehicle Tracking of Industrial Materials; and the Standards for the Disposal of Coal Combustion Residuals From Electric Utilities (CCR Rule) of April 17, 2015 will be implemented and monitored at AES-PR.<sup>1</sup>

## 2. Scope

The Coal Combustion Residuals and Agremax™ Dust Control Plan (Plan) described in this SOP addresses fugitive dust emissions ( i.e., emitted from any source other than a stack or chimney) from coal combustion residuals (ash) and Agremax™ handling equipment and operations which are non-point sources and area sources within the AES-PR property boundaries as shown in Appendix 1. It does not address particulate or gaseous emissions from point or other (usually enclosed) sources regulated under the facility's air emission permit issued in accordance with the provisions of Part VI of the Regulation for the Control of Atmospheric Pollution (RCAP) and the

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<sup>1</sup> AES Puerto Rico's temporary storage of its inventory of manufactured aggregate is not subject to the CCR Rule, 40 C.F.R. Part 257. Nonetheless, as a protective measure, AES Puerto Rico has prepared this Plan and taken other steps to satisfy CCR Rule requirements applicable to CCR landfills. By undertaking these measures, AES Puerto Rico does not admit its facility is a CCR landfill covered by the CCR Rule and expressly preserves all rights and defenses.

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Code of Federal Regulations, Title 40 Part 70 e.g. coal combustion and transfer and power generation areas.

It identifies sources of fugitive dust, outlines the techniques and practices for detecting, monitoring, controlling, minimizing and preventing dust emissions, provides procedures to handle citizen complaints, employee training program guidelines to help them recognize potential sources of dust and the management practices to prevent and control them, identifies the persons and procedures responsible for control equipment availability / operation and maintenance and identifies the inspection / recordkeeping / reporting / notification practices that will be followed.

### 3. Responsibilities

- 3.1. The AES-PR Coal Combustion Products (CCP) and Material Handling (MH) leaders are the dust control site coordinators responsible for the implementation of this SOP, including: reading and understanding it, ensuring that all employees / workers / subcontractors know and understand their dust control responsibilities, monitoring the worksite for compliance with the requirements of this SOP, designing watering schedules, ensuring that adequate watering capability is available, determining when to use standby controls when primary controls are ineffective, determining when to cease and start operations, maintaining records and revising the SOP as necessary, including when the primary and standby or contingency controls don't result in effective control.
- 3.2. The Shift Team Leaders and the CCP/MH Operators are responsible for controlling their operational areas to minimize dust generation. This includes limiting or stopping operations during high winds and/or visible dust plume conditions that cannot be controlled. Limitation or ceasing of operations will be documented using the Dust Control Inspection Checklist (Appendix 2).



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3.3. The CPP/MH Operators are responsible for enforcing the requirements of this SOP and notifying the dust control site coordinator or Shift Team Leader of any visible dust plumes which require immediate attention, including those that cross the site boundary. The operational activity that caused the emission will be ceased temporarily until a re-evaluation of the dust control measures is completed and additional controls are identified and implemented, if needed. Limitation or ceasing of operations will be documented using the Dust Control Inspection Checklist (Appendix 2).

3.4. All dust control equipment i.e., water truck, sweeper, sprinklers, hoses, will be maintained in good operational order by the responsible areas. The water truck will be the responsibility of MH, the sweeper will be the responsibility of CCP; all other controls will be the responsibility of the Maintenance Area. Each area will document and maintain records of how frequently equipment maintenance is done and of all equipment malfunctions and downtimes.


#### 4. Safety Precautions

All AES-PR employees and contractors must use the safety and personal protective equipment required for conducting the activities described herein, including but not limited to hard hats, safety glasses, harness, life preservers and other, as appropriate.

#### 5. Dust Emission Sources

The potential dust emission sources covered by this Plan are located at the southeast quadrant of the plant site and the marine dock. See Appendix 1

Fly ash and bottom ash are produced by the coal combustion process and stored in two elevated silos and eventually transferred from the silos directly into totally-enclosed bulk trailers for transport by public highway to off-site users.


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Agremax™ is a manufactured aggregate produced by AES-PR using its own CCRs. Ashes that are not delivered to off-site users are mixed in a pug mill conditions this CCR to produce Agremax™ with enough moisture to prevent wind dispersal without producing free liquids before feeding a conveyor belt used to transfer the mixture to an open stockpile area where it is also kept wet by the application of water sufficient to prevent dispersal by wind (without producing free liquids) before feeding a conveyor belt used to transfer the mixture to an open Stockpile Area at the facility where it is also kept wet by the application of water sufficient to prevent dispersal by wind (without producing free liquids) before it is spread by a bulldozer. A stockpile<sup>2</sup> to store the inventory of Agremax™ is formed by a bulldozer or by dump trucks that are loaded with Agremax™ by an excavator or front end loader, and the trucks then place the Agremax™ onto a stockpile. From the Stockpile Area the Agremax™ is loaded by an excavator or front-end loader into dump trucks, covered, and sent for transport by public highway to off-site users or for disposal. Alternatively, the Agremax™ can be fed by a bulldozer into a crusher located in the Stockpile Area. The crusher feeds an enclosed conveyor to transfer the Agremax™ to marine vessels in the dock area for shipment overseas. Dust can be generated from the ash-Agremax™ transfer operations, truck loading and unloading, crusher loading, from paved and unpaved haul roads within the site, and from the Stockpile Area.

## 6. Controls

The main equipment and structures used for controlling dust emissions include a water truck with rear spray nozzles and front water cannon, a broom sweeper, mobile water sprinkler guns,

<sup>2</sup> AES-PR currently maintains two separate Agremax™ stockpiles. These two stockpiles are located in the Stockpile Area behind the plant. One stockpile includes the Agremax™ inventory produced and stored before October 17, 2015. The second stockpile has Agremax™ inventory produced on or after October 17, 2015. Each stockpile will be covered by this SOP.


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large water hoses, fixed water spray nozzle systems / articulated telescoping spouts at drop and loading / shipping areas, a truck wheel cleaning station and curved- paved haul roads.

In addition to the use of the equipment and structures described above, primary (first approach) and contingency (standby or backup strategy) control measures are used to control the generation of dust emissions. Refer to the flowchart in Appendix 3.

Primary controls include initial and annual personnel training, a daily operational inspection checklist to monitor the implementation and effectiveness of the control measures, daily evaluation of weather forecast and real-time instrumental monitoring of weather conditions (precipitation, wind speed-direction [refer to AES Rainfall Data Collection Management & Recordkeeping Procedure. SOP-Eng-002]), around the clock watering of stockpile surfaces and pre-shift watering of haul roads, daily log of water truck use, covered transfer conveyors, continuous observation of visible dust emissions (VDE), daily sweeping / cleaning of paved roads, maintenance / repair of paved road surfaces, immediate cleanup of track-out and material spillage onto paved roads, prohibited use of blower devices or dry rotary brushes or brooms, enforcement of posted vehicle and moving equipment speed limits to 10 miles per hour (mph) or less , traffic restrictions, minimization of drop distances at transfer points, loading of trucks to prevent their contents from dropping/leaking/ blowing or otherwise escaping, sweeping or spray-cleaning and covering dump trucks prior to leaving the facility, 6-inch minimum bed freeboard clearance requirements for loading dump trucks, surface roughening-compaction of stockpile surfaces, placing stockpile ridges at right angles to prevailing winds, conducting loading and unloading activities on the downwind side of a stockpile, watering of exposed areas before forecasted high winds, restriction or termination of a stockpile disturbance and hauling activities during high sustained wind conditions (i.e., 25 miles per hour or higher) and scheduled washing of mobile equipment.



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At the start of each shift or material handling equipment startup and at least twice during each shift, the CPP/MH Operators will assess the operational status of all controls and record such assessments using the Dust Control Inspection Checklist in Appendix 2 which will be used to monitor the implementation and effectiveness of the control measures. Water truck operations may be curtailed during wet weather if the CPP/MH Operators confirm that the Agremax™ is sufficiently wet as to not require further wet abatement (one inch of precipitation is equivalent to an application of 5.6 gallons of water per square yard). These determinations will also be recorded in the Dust Control Inspection Checklist.

If after the implementation of primary control measures, visible dust emissions persist, contingency control measures including additional wetting of the stockpiles with sprinklers, applying chemical dust suppressants, surfacing of unpaved haul roads with aggregate cover / aprons and restriction / termination of activities could be implemented. Because the control effectiveness of chemical dust suppressants depend on the dilution rate, the application rate, time between applications, size/speed / amount of traffic and meteorological conditions any chemical dust suppressants used will be applied according to the manufacturer's instructions. If primary and contingency controls don't result in effective control, this SOP must be revised.

The dust type / source and the primary control measures used for each source can be described as follows:

#### 6.1. Agremax™- Ash / Paved Haul Roads

Description: Emissions can be generated from uncovered truck beds, spillage from haul trucks, vehicle dust carryout and track out. Wind and traffic, including plant (front end loaders, trucks and trailers) and customer vehicles, re-suspend the deposited material creating secondary sources of dust emissions. The average vehicle weight is highly variable, ranging from small pick-up trucks (1 ton) to large trucks / trailers (30 tons).

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Control Methods and Equipment: Wet suppression by water truck with rear water sprinklers and water cannon, daily pavement cleaning with water hoses, speed limit restrictions to 10 mph or less posted along haul route, daily wet mechanical sweeping of pavement, immediate cleanup of material spillages, dump truck freeboard / cover, wheel washing and hosing at fixed station, curved shoulders and pavement surface repair as needed.

Frequency of Application: At the beginning of the work shift, whenever fugitive dust plumes are observed and as required to keep road surfaces wet, clean and structurally sound.

Monitoring: Twice Daily

Recordkeeping: Dust Control Inspection Checklist

## 6.2. Agremax™ / Unpaved Roads


Description: Emissions can be generated from wind erosion of uncovered truck beds and road surfaces and heavy equipment traffic (bulldozer, excavator, front end loader, trucks and trailers).

Control Methods and Equipment: Daytime wet suppression by water truck with rear water nozzles and water cannon, vehicle speed limits to 10 mph or less, dump truck freeboard / cover.

Frequency of Application: At the beginning of the work shift, whenever fugitive dust plumes are observed and as required to keep road surfaces wet.

Monitoring: Twice Daily

Recordkeeping: Dust Control Inspection Checklist

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### 6.3. Agremax™ / Stockpile.

Description: Agremax™ is a cementitious aggregate material which forms a surface crust resulting in limited fugitive dust emissions. It is stored in an open storage pile that continuously changes in shape and volume; this state of flux limits the practicality and effectiveness of permanent or fixed structural controls like windbreaks. Emissions may be generated from the initial Agremax™ conveyor drop discharge into the Stockpile Area, pushing by heavy equipment to create a stockpile, loading and unloading of dump trucks to remove or add Agremax™ to a stockpile and for off-site transportation, pushing Agremax™ into the crusher feeding the conveyor to the dock and from wind erosion of stockpile surfaces. The maximum stockpile work area is about 6.17 acres.

Control Methods and Equipment: Daytime and night time wet suppression of stockpile surfaces by ten Sime Skipper mobile sprinkler guns (each sprinkler can cover an area up to 1.2 acres, therefore providing more than enough wetting capacity for the complete Agremax™ stockpile), daytime wet suppression of stockpile surfaces (including side slopes) by water truck with adjustable angle water cannon, fixed water spay nozzles at conveyor drop discharge point, reduced drop heights for truck loading, hose wetting of crusher feed and dump truck unloading, surface roughening - compaction of stockpile surfaces with bulldozer, stockpile ridges at right angles to prevailing winds, confining loading and unloading to downwind side of stockpile, watering of exposed areas before forecasted high winds. The combined efficiency of all the Agremax™ moisture content controls described should be well above the 90 % reported just for watering storage piles. In contrast, control efficiencies of only 75 % can be expected from providing 3-sided enclosures e.g., wind breaks with 50 % porosity making such control unnecessary and burdensome.

Frequency of Application: Around the clock and at the beginning of the work shift, and as required to keep stockpile surfaces wet.



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Monitoring: Twice during each shift

Recordkeeping: Dust Control Inspection Checklist

#### 6.4. Ash / Transfer to Bulk Trailers

Description: Fugitive dust emissions may be generated during the chute connection and disconnection steps required for loading ash from the elevated storage silos into bulk trailers for off-site transportation.

Control Methods and Equipment: Discharge drop height control using articulated- telescopic loading spout, enclosed loading area, wet suppression with water spray nozzles at west side of loading bay, truck- trailer cleaning with water hose before leaving the loading bay.

Frequency of Application: Each loading


Monitoring: Twice Daily

Recordkeeping: Dust Control Inspection Checklist

#### 6.5. Ash / Power Block Outage

Description: Fugitive dust emissions may be generated during the discharge of bottom ash from the heat exchangers into a small stockpile on the floor of the Power Block Area during outages (twice/year).

Control Methods and Equipment: The floor surface is not exposed to precipitation, a vacuum truck is used to collect the bottom ash from the floor.

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Frequency of Application: Twice / year during outages.

Monitoring: Twice Daily

Recordkeeping: Dust Control Inspection Checklist

#### 6.6. Agremax™ / Dump Truck Loading and Unloading

Description: Dust emissions may be generated during the loading of Agremax™ into dump trucks to create a stockpile or for off-site transportation and during unloading of dump trucks into a stockpile.

Control Methods and Equipment: Daytime wet suppression by water truck with rear water nozzles and water cannon or large hoses, front end loader and excavator discharge drop height reduction.

Frequency of Application: Each loading

Monitoring: Twice Daily


Recordkeeping: Dust Control Inspection Checklist

#### 6.7. Agremax™ / Conveyor Loading and Transfer

Description: Dust emissions can be generated by wind blowing over the elevated conveyor used to transfer Agremax™ to marine vessels at the dock area and when it is discharged into the vessel's holding compartment.

Control Methods and Equipment: Covered conveyors, discharge drop height control with articulated- telescopic loading spout.

Frequency of Application: Each loading

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Monitoring: Twice Daily (During Vessel Loading)

Recordkeeping: Dust Control Inspection Checklist

## 7. Citizen Complaints and Corrective Actions

Citizen complaints claiming CCR fugitive dust events at AES-PR will be documented using the Citizen Complaints Log in Appendix 4 so they can be investigated by the Environmental staff. Because CCR dust events may be short-term and visual observations will probably be required, expeditious attention will be provided to these events. If the origin of the complaint is determined to be due to CCR fugitive dust, then corrective and follow-up actions will be identified and included in the Log. This Log of Citizen complaints and a summary of corrective actions taken, if any, will be kept for use in the preparation of the Annual Fugitive Dust Control Report described below.


## 8. Training

To ensure that the dust control practices are followed, AES-PR will conduct an employee awareness training that will include all applicable dust control measures and the importance of strict compliance. Records of the trainings will be maintained, including the sign-in sheets.

8.1 The designated employees and/or contractors responsible for the performance and/or supervision of dust control activities must receive initial and yearly classroom and hands-on training on this SOP.

8.2 Training in the requirements of this SOP will be provided prior to commencing duties at the affected areas and at least every year following the Training Syllabus in Appendix 5.



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8.3 All trainings will be documented using the Employee Training Attendance Log in Appendix 6.


## 9. Inspections, Reports and Corrective Actions

In addition to the twice-daily inspections described above, AES-PR will perform weekly inspections by a qualified person to identify conditions with the potential to disrupt operations or safety of the CCR inventory stored in the Stockpile Area. The inspections will be documented using the form in Appendix 7.

AES-PR will prepare an Annual CCR Fugitive Dust Control Report that includes the following:

- Descriptions of actions taken to control CCR fugitive dust
- A record of all citizen complaints and a summary of any corrective actions taken

Finally, AES-PR will engage a qualified professional engineer to prepare an Annual Inspection Report addressing geometry changes, approximate volume, structural weaknesses, existing conditions and any other changes that can disrupt the operation, safety or stability of a stockpile.

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## 10. Recordkeeping

All versions of this Plan, the annual CCR Fugitive Dust Control Reports, documentation detailing corrective measures, weekly and annual inspections will be kept in the facility's operating record as they become available.

All information related to this SOP will be kept for three years after the expiration of the site's industrial storm water discharge permit under the 2015 MSGP or five years following the date on which it was prepared, whichever is later.

## 11. Internet Requirements and Notifications

AES-PR will ensure the Puerto Rico Environmental Quality Board is notified of the availability of the Plan, including any subsequent amendments, and of the availability of the Annual CCR Fugitive Dust Control Report, as provided in the CCR Rule. AES-PR will also ensure the most recent version of the Plan and Annual CCR Fugitive Dust Control Report is posted on a publicly-accessible internet site (CCR Web site) for the AES-PR facility, as provided by the CCR Rule.

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## 12. Licensed Professional Engineer Certification

This Dust Control Plan was prepared following the guidelines of 40 CFR 257.80 to cover the needs of the AES Puerto Rico facility located at Km. 142.0 State Road PR-3, Jobos Ward, Guayama, PR.

I, Winston R. Esteves, a Puerto Rico licensed Professional Engineer, certify that:

- I am familiar with the requirements of 40 CFR 257.80;
- I have visited and examined the AES Puerto Rico, facility;
- This Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of the CCR rule;
- Procedures for required inspections have been established; and
- That this Plan is adequate for the facility.

This certification in no way relieves the owner or operator of the facility of the duty to fully implement this Fugitive Dust Control Plan. This Plan is only valid to the extent that the facility owner or operator maintains, tests and inspects controls, equipment, and other devices as prescribed herein. I did not test for proper operation of any equipment, devices, control systems or any other equipment systems not specifically mentioned.



Winston R. Esteves, PE

3/29/17

Date

8827

License Number


8/31/17

License Renewal Date



P.E. Seal



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### 13. Periodic Plan Assessment and Amendments

The effectiveness of this Plan will be assessed to determine if updates or amendments are necessary after reviewing the Annual Fugitive Dust Control Report, the Annual Inspection Report and whenever there is a change in conditions that would substantially affect it e.g. construction and operation of a new CCR unit, significant increases in quantities of CCR managed, changes in CCR handling / storage practices or modifications to CCR handling / storage equipment. All technical amendments to this SOP will be certified by a Professional Engineer.

A record of the amendments made to this SOP is included below.


#### Record of Amendments

Date of Amendment	Amended Sections or Topics	Amendments Made By
---	Original document prepared in August 2015.	---
September 19, 2016	Addition of CCR Rule Provisions for Fugitive Dust	Winston R. Esteves, PE
March 29, 2017	Revision to include EPA August 12, 2016 Water Compliance Inspection comments	Winston R. Esteves, PE

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## 14. References

- 1- AES Rainfall Data Collection Management & Recordkeeping Procedure. SOP-Eng-002.
- 2- Air & Waste Management Association. Air Pollution Engineering Manual. 2000.
- 3- California Stormwater Quality Association. California Stormwater BMP Handbook- Construction. Wind Erosion Control WE-1. May 2011.
- 4- Noyes Data Corporation. Dust Control Handbook. Pollution Technology Review No. 161. 1988.
- 5- US Department of Health and Human Services. Dust Control Handbook for Industrial Minerals Mining and Processing. January 2012.
- 6- United States Environmental Protection Agency (USEPA). Emission Control Technologies and Emission Factors for Unpaved Road Fugitive Emissions. EPA 625/5-87-022. September 1987.
- 7- USEPA. Control of Open Fugitive Dust Sources. EPA 450/3-88-008. September 1988
- 8- USEPA. AP-42 Compilation of Air Pollutant Emission Factors. Volume 1: Stationary Point and Area Sources. Chapter 13: Miscellaneous Sources. January 1995.
- 9- USEPA. Storm Water Management Fact Sheet- Dust Control EPA 832-F-99-003. September 1999.

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10- USEPA. Final National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Form Industrial Activities, Federal Register, Vol. 73, No. 189, September 29, 2008.

11- USEPA. Water: Best Management Practices; Dust Control. Source:

<http://www.epa.gov/polwaste/npdes/swbmp/Dust-C>. Web Page last updated on Tuesday, July 1, 2014; Accessed and printed on March 27, 2015. [4 pages]

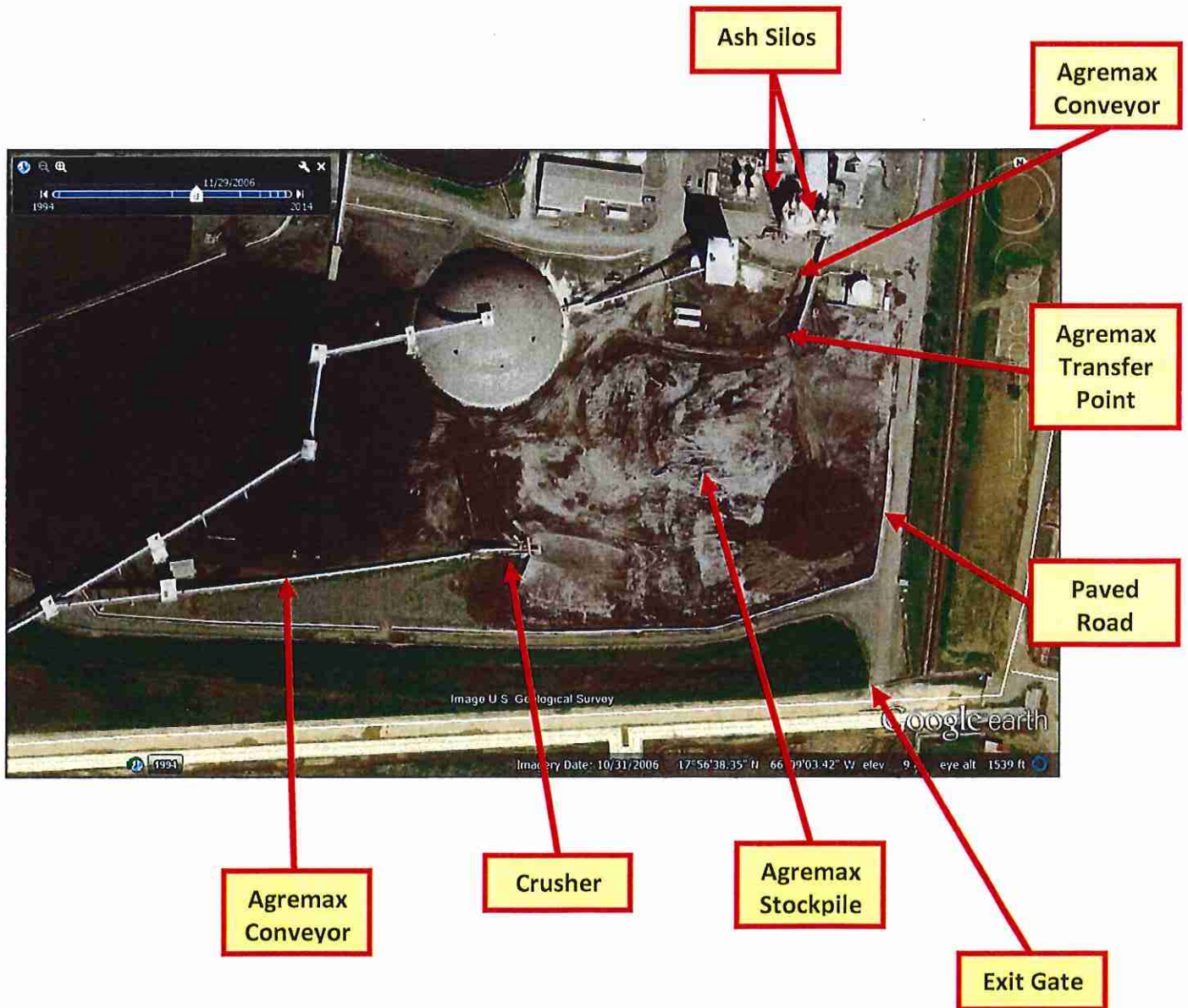
12- USEPA. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule 80 FR 21301-21501. April 17,2015

13- Western Regional Air Partnership. WRAP Fugitive Dust Handbook. Chapter 9. Storage Pile Wind Erosion. September 7, 2006.



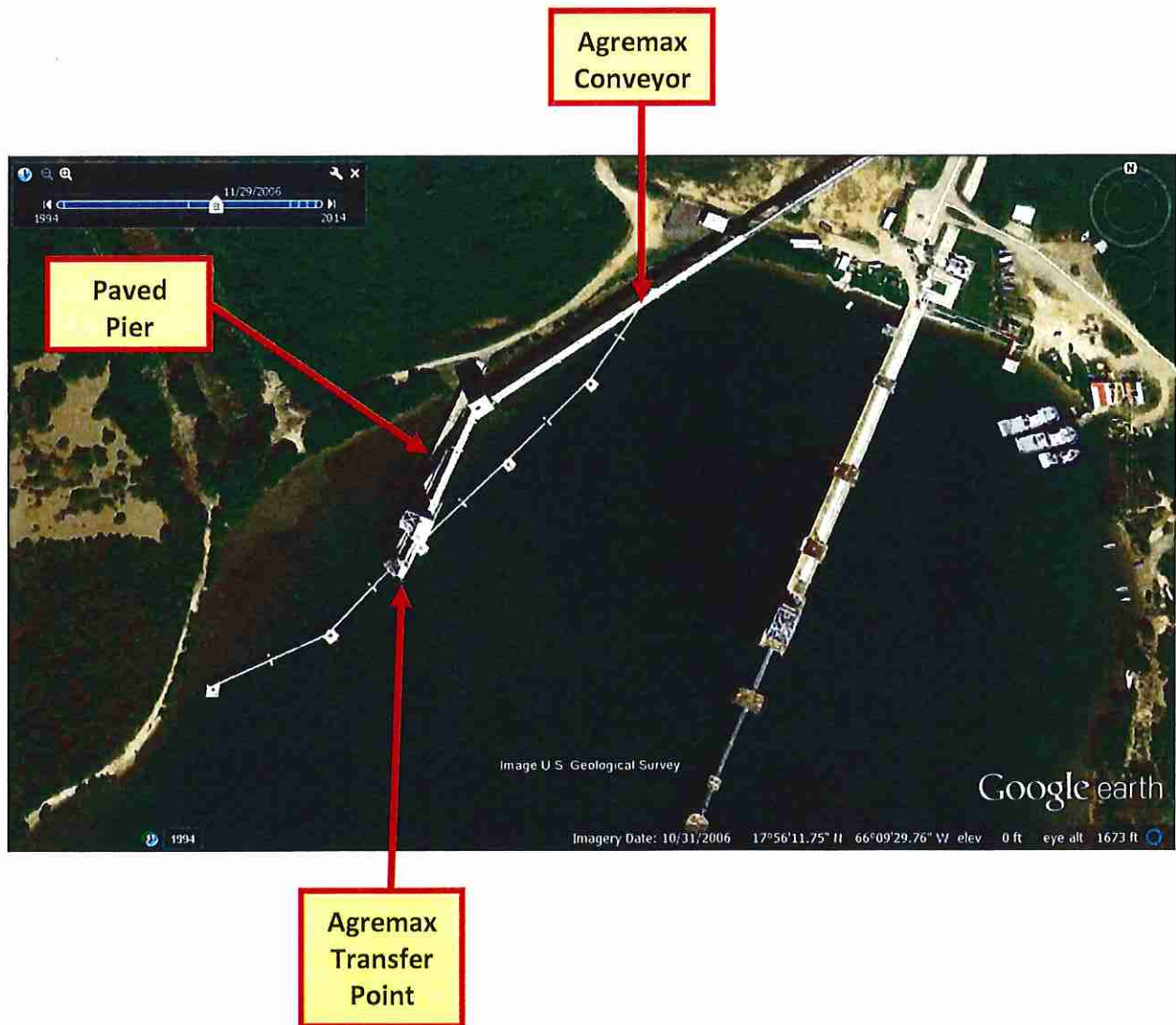


## Plant Dust Control Map



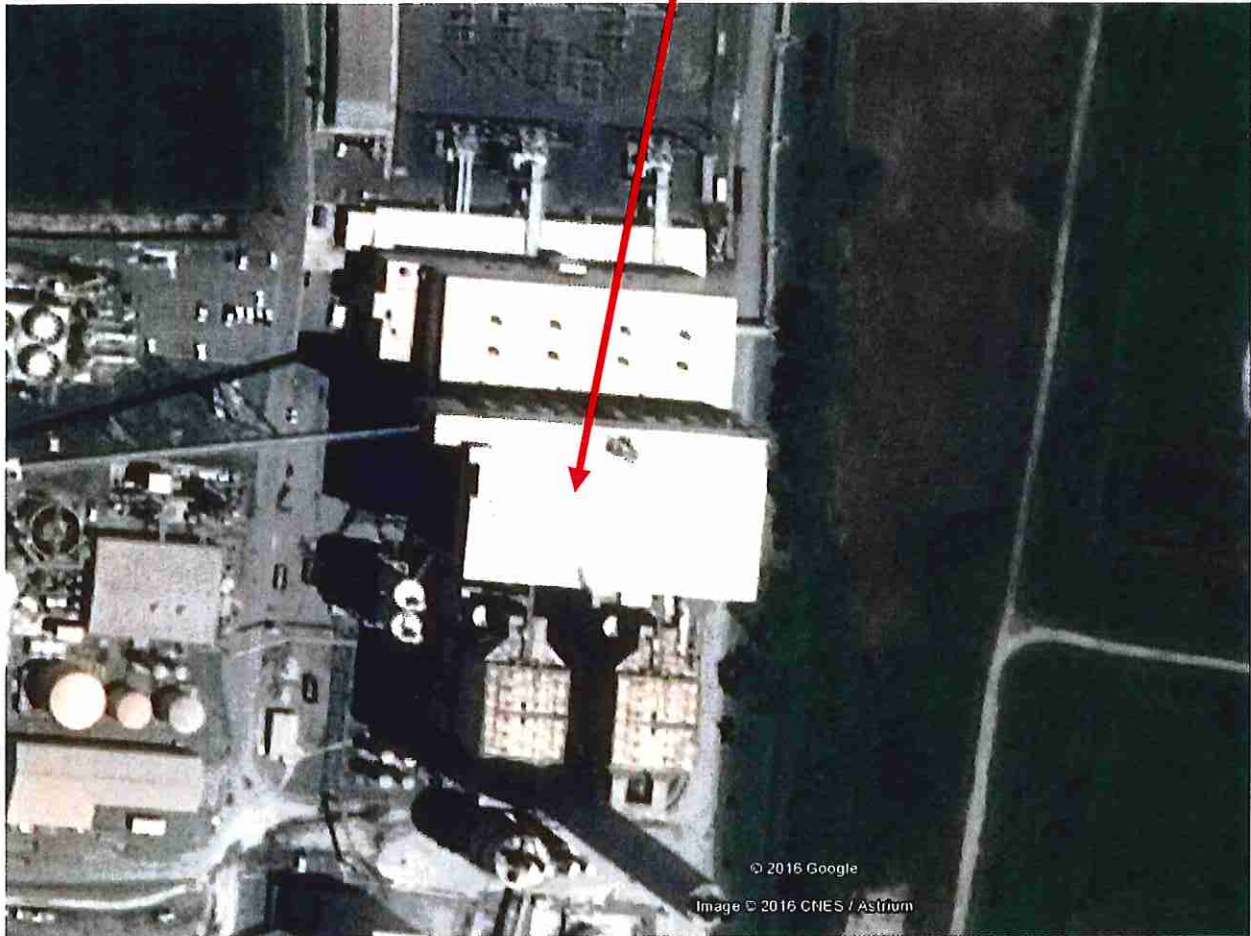


## Plant Dust Control Map



## AES Puerto Rico Plant Dust Control Map

Outage Ash  
Handling





## AES Puerto Rico

### Dust Control Checklist

#### Control Equipment

Skipper Sprinkler Guns (10)	_____ Operational	_____ Not Operational
Water Truck (1)	_____ Operational	_____ Not Operational
Broom Sweeper (1)	_____ Operational	_____ Not Operational
Vacuum Truck	_____ Operational	_____ Not Operational
Large Water Hoses ( )	_____ Available	_____ Not Available

#### Paved Haul Roads

Surface in Good Condition	_____ Yes	_____ No
Wet Surfaces	_____ Yes	_____ No
Blowers or Dry Sweeping Used	_____ Yes	_____ No
Visible Emissions	_____ Yes	_____ No
Visible Speed Limit Signs Posted	_____ Yes	_____ No
Spilled Materials	_____ Yes	_____ No
Tracked Sediments	_____ Yes	_____ No
Wheel Washer Station	_____ Yes	_____ No
- Adequate Water level	_____ Yes	_____ No
- Adequate Aggregate Depth	_____ Yes	_____ No
- Aggregate Surface Clean	_____ Yes	_____ No

#### Haul Trucks

Within Speed Limits	_____ Yes	_____ No
Within Established Routes	_____ Yes	_____ No
Covered with Tarp	_____ Yes	_____ No

Free of Debris	_____ Yes	_____ No
Adequate Freeboard	_____ Yes	_____ No
Low Loading Drop Height	_____ Yes	_____ No

### **Unpaved Haul Roads**

Wet Surface	_____ Yes	_____ No
Aggregate Cover	_____ Yes	_____ No
Over Watering Observed	_____ Yes	_____ No
Road Erosion Observed	_____ Yes	_____ No
Visible Emissions	_____ Yes	_____ No

### **Conveyors**

Silos to Stockpile Fully Enclosed	_____ Yes	_____ No
Stockpile to Dock Silos Fully Enclosed	_____ Yes	_____ No
Water Applied at Conveyor Drop Point	_____ Yes	_____ No
Water Applied at Crusher Feed	_____ Yes	_____ No
Visible Emissions	_____ Yes	_____ No

### **Fixed Transfer Points**

Silos to Stockpile Water Sprays Operational	_____ Yes	_____ No
Stockpile Crusher Feed Wet	_____ Yes	_____ No
Conveyor to Marine Vessel Telescoping Spout Operational	_____ Yes	_____ No
Silos to Bulk Trailers Telescoping Spout Operational	_____ Yes	_____ No
Leak Proof Spout Connection	_____ Yes	_____ No
Ash Silos Water Curtain Operational	_____ Yes	_____ No

### **Agremax Stockpile**

Wet Stockpile Surfaces	_____ Yes	_____ No
Water Sprays Overlap	_____ Yes	_____ No
Chemical Dust Suppressants Used	_____ Yes	_____ No
Activities on downwind side	_____ Yes	_____ No
Slope Surface Roughening /Compaction	_____ Yes	_____ No
Ridges at Right Angles to Prevailing Winds	_____ Yes	_____ No
Slope Erosion Observed	_____ Yes	_____ No
Visible Emissions	_____ Yes	_____ No

### **Power Bock Outage**

Bed Ash Stockpile Removal With Vacuum Truck \_\_\_\_\_ Yes \_\_\_\_\_ No

Wind Speed\_\_\_\_\_

Wind Direction\_\_\_\_\_

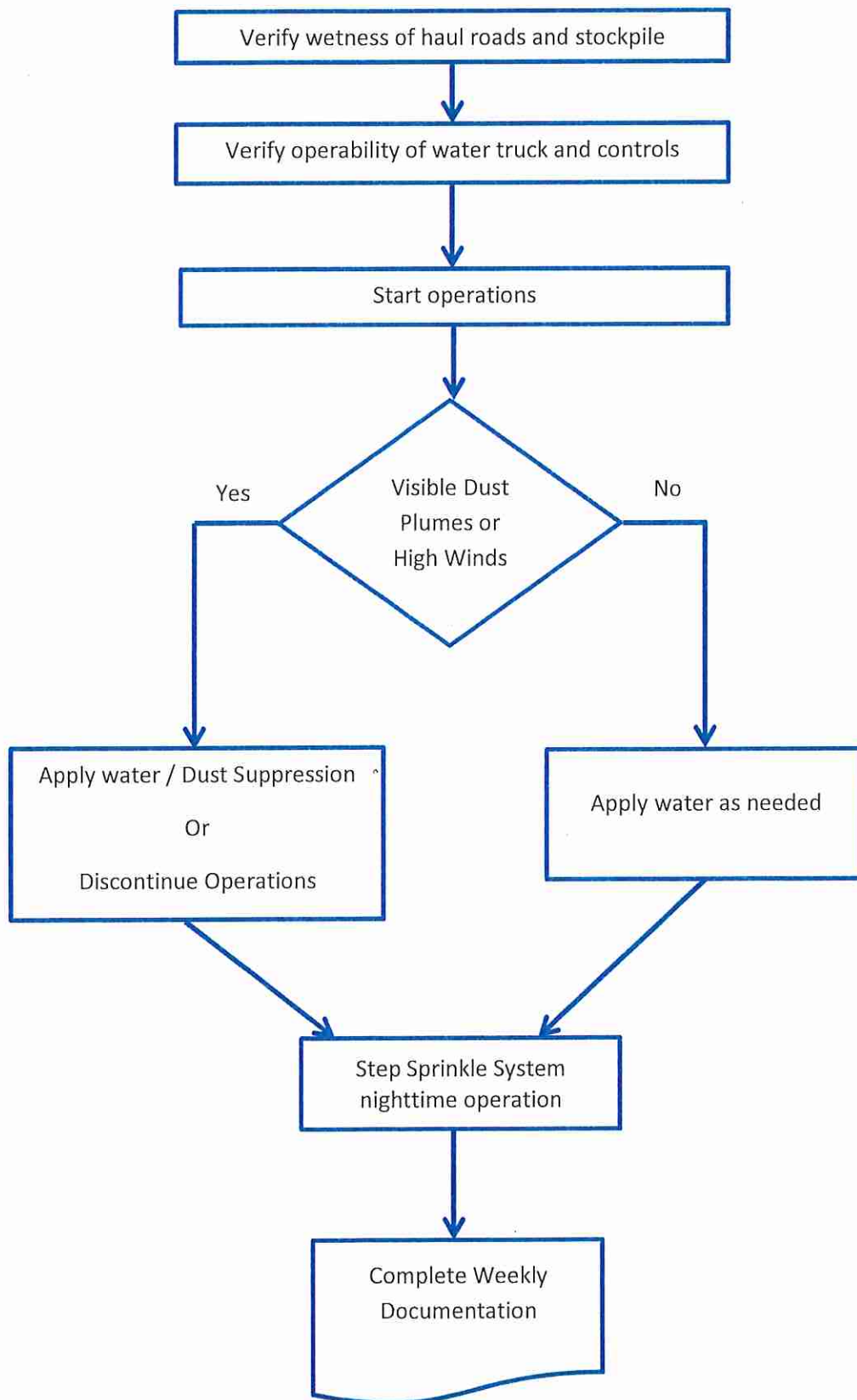
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Name / Signature \_\_\_\_\_

Date\_\_\_\_\_ Time\_\_\_\_\_



## Dust Control Activity Flow Chart





### **Fugitive Dust Citizen Complaints Log**

Date and Time Complaint Received	
Person Receiving Complaint	
Method Complaint Registered or Received	
Description of Complaint	
Area of Site Originating Complaint (if applicable)	
Corrective Actions Description and Timetable (if applicable)	
Follow-up Actions (if applicable)	



## **DUST CONTROL TRAINING SYLABUS**

**Subject Category:** Compliance with permit requirements

**Training Length:** 2- 4 hr

**Delivery Mode:** Lecture, field exercise

**Training Instructional Materials / Handouts:** Power Point Presentation and Hard Copies

**Schedule:** Once / year

**Training Purpose:** Provide information to employees responsible for ash and Agremax handling activities

**Instructors:** AES or contracted

**Written Exam:** No

**Practical Exam:** Yes

**WEB Resource:** N/A

**Topics to be covered:**

**Dust Control Requirements**

**Fugitive Dust Sources**

**Primary and Contingency Controls**

**Prohibited Practices**

**Responsibilities**

**Monitoring and Recordkeeping**

**Corrective Actions**





## Dust Control SOP Training Attendance

Date: \_\_\_\_\_

Name	Shift/Team	Signature
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		



### Weekly Stockpile Inspection Form

Date: \_\_\_\_\_ Inspector: \_\_\_\_\_

Time: \_\_\_\_\_ Weather Conditions: \_\_\_\_\_

Stockpile Height: \_\_\_\_\_ Stockpile Volume: \_\_\_\_\_

Inspection Item		Yes	No	Notes
1.	Adequate access			
2.	Adequate setback from gabion wall/structures			
3.	Excess water runoff			
4.	Water ponding flooding			
5.	Animal burrows			
6.	Side slopes stable			
7.	Steep slopes			
8.	Colapsed slopes			
9.	Slope rills			
10.	Surface water runon			

Additional Notes: \_\_\_\_\_

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## **Appendix 2: Cost Report from March 2015 to September 2016**



## Costs Report

EPA ACO Expenses from March 2015 to September 2016		
Activities	Expenses for this period	Expenses to Date
Sweeper Dulevo 200 Quattro	\$ 65,250.00	\$ 65,250.00
Quick-Cover roll up style roll off cover	\$ 1,898.00	\$ 1,898.00
Quick-Cover replacement wheel handle	\$ 600.00	\$ 600.00
Plant road Improvements (Robles Asphalt)	\$ 172,421.00	\$ 172,421.00
Gravel cover around facility (Melendez)	\$ 106,500.00	\$ 106,500.00
Rip Rap replacement at Gate 3 (MVS Contractor)	\$ 32,665.00	\$ 32,665.00
Storm Water Protection Inlets	\$ 4,593.70	\$ 4,593.70
Storm water drain guard	\$ 1,966.75	\$ 1,966.75
Interior wall for Ultratech 9659	\$ 856.58	\$ 856.58
Storm water automatic samplers troubleshooting (MSSG)	\$ 1,100.00	\$ 1,100.00
Environmental Consultant (Eng. Winston Esteves)	118,000.00	118,000.00
Storm water Laboratory Analysis (Beckton)	\$ 1,896.00	\$ 1,896.00
SWPPP Site Map Preparation (LS. Menchaca)	\$ 2,570.00	\$ 2,570.00
Storm water compliance coordinator (Eng. Pedro Labayen)	\$ 75,000.00	\$ 75,000.00
100 yr channel cleaning (container & material disposal)	\$ 3,000.00	\$ 3,000.00
<b>TOTAL</b>	<b>\$ 588,317.03</b>	<b>\$ 588,317.03</b>

**Appendix 3:** Copy of the chain of custody records and laboratory analysis and report for outfalls 002 and 003



## REPORT OF ANALYSIS

ATTENTION: Mr. Héctor Ávila  
COMPANY: AES Puerto Rico - Guayama

DATE: August 31, 2016

CONTRACT: AES - Guayama

LAB. SAMPLE ID: BEL-1602751  
SAMPLE COLLECTED BY: Client (Pedro Labayen)  
DATE RECEIVED: 08/18/16

SAMPLE DATE: 08/13/16  
TIME: 10:00PM

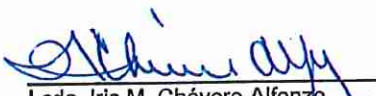
DESCRIPTION: Stormwater #002  
LAB. FILE ID: 1602751  
MATRIX: Water

PARAMETER	EPA METHOD	SAMPLE TYPE	UNITS	BEL-1602751 RESULT	METHOD DETECTION LIMIT	ANALYST	DATE ANALYZED
Aluminum	200.7(ICAP)	Grab	mg/L	0.254	0.005	HS	08/26/16
Iron	200.7(ICAP)	Grab	mg/L	0.222	0.010	HS	08/26/16
Lead	200.7(ICAP)	Grab	mg/L	0.004	0.002	HS	08/26/16
Zinc	200.7(ICAP)	Grab	mg/L	0.020	0.002	HS	08/26/16

Sample was preserved in the laboratory.

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in the Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

  
Lcda. Iris M. Chévere Alfonzo  
Laboratory Director  
Chemist License 2370

Attachment: Chain of Custody Records (1)



PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.  
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.  
CERTIFIED BY STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING  
•CERTIFICATION NUMBER E87556•  
CERTIFIED BY THE PUERTO RICO DEPARTMENT OF HEALTH (PRDOH) EPA CODE #PR00012  
192 VILLA STREET • PONCE, PR 00730-4875 • TEL. (787) 841-7373 • FAX (787) 841-7313



## BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

## CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY	AES		SAMPLER	Pedro Laveyen	
SAMPLE LOCATION/CLIENT ID	Stormwater 002			TIME	10:00 AM	CONTROL NO.
SAMPLE DATE	8/13/16			BEL. NO.	1602751	187722

## 1. General Environmental:

PC

Acidity ( ) —  
 Ammonia as N ( ) —  
 BOD-5 ( ) —  
 Chloride ( ) —  
 COD ( ) —  
 Conductivity  $\mu$ mhos/cm ( ) —  
 Dissolved Oxygen ( ) —  
 Hardness ( ) —  
 Moisture % ( ) —  
 Nitrite ( ) —  
 Oil+Grease ( ) —  
 Phenol ( ) —  
 Phosphorus, Total ( ) —  
 Sett Solids mg/L ( ) —  
 Sulfate ( ) —  
 Sulfite ( ) —  
 TDS ( ) —  
 Temperature, °C ( ) —  
 TOC ( ) —  
 Asbestos ( ) —  
 TVS ( ) —  
 Total Nitrogen ( ) —

## VSS

PC

Alkalinity ( ) —  
 Bicarbonate ( ) —  
 Bromide ( ) —  
 Chlorine, Res. ( ) —  
 Color (ADMI) ( ) —  
 Color (Pt-Co) ( ) —  
 Cyanide ( ) —  
 Fluoride ( ) —  
 Iodide ( ) —  
 Nitrate ( ) —  
 Nitrate + Nitrite ( ) —  
 pH, S.U. ( ) —  
 Phosphate, Ortho ( ) —  
 Sett. Solids mL/L ( ) —  
 Solids, Total ( ) —  
 Sulfide ( ) —  
 Surfactant ( ) —  
 TSS ( ) —  
 TKN ( ) —  
 Turbidity ( ) —  
 Carbonate ( ) —

## 2. Metals:

Aluminum (Al) ( ) ☒ 13  
 Chromium (Cr) ( ) —  
 Iron (Fe) ( ) ☒ 13  
 Manganese (Mn) ( ) —  
 Nickel (Ni) ( ) —  
 Silver (Ag) ( ) —  
 Zinc (Zn) ( ) ☒ 13  
 Barium (Ba) ( ) —  
 Antimony (Sb) ( ) —  
 Bismuth (Bi) ( ) —  
 Chromium, VI (CrVI) ( ) —  
 Magnesium (Mg) ( ) —  
 Potassium (K) ( ) —  
 Sodium (Na) ( ) —  
 Thallium (Tl) ( ) —  
 Vanadium (V) ( ) —

Cadmium (Cd) ( ) —  
 Copper (Cu) ( ) —  
 Lead (Pb) ( ) ☒ 13  
 Mercury (Hg) ( ) —  
 Selenium (Se) ( ) —  
 Tin (Sn) ( ) —  
 Arsenic (As) ( ) —  
 Boron (B) ( ) —  
 Beryllium (Be) ( ) —  
 Calcium (Ca) ( ) —  
 Cobalt (Co) ( ) —  
 Molybdenum (Mo) ( ) —  
 Silicon (Si) ( ) —  
 Strontium (Sr) ( ) —  
 Titanium (Ti) ( ) —  
 Lithium (Li) ( ) —

## 3. RCRA/Hazardous wastes

Ignitability (Flash Pt.) ( ) —  
 Reactivity (CN & S) ( ) —  
 RCRA Metals ( ) —  
 Organics-BNA ( ) —  
 TOX ( ) —

Corrosivity ( ) —  
 TCLP ( ) —  
 Organics-Pest/Herb ( ) —  
 Organics-VOA ( ) —

## 4. Specific Organics

Volatiles ( ) —  
 Pesticides/PCB's ( ) —  
 Herbicides ( ) —  
 BTEX ( ) —  
 TTO & Dioxin ( ) —

Phenols GC ( ) —  
 Semi-Volatiles (BNA) ( ) —  
 PCB's Only ( ) —  
 TPH 418.1 ( ) —  
 TTO ( ) —  
 TPH 8015 ( ) —  
 Lindane ( ) —

## 5. Microbiology

Fecal Coliform ( ) —

Total Coliform ( ) —

Comments:

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time: 8/18/2016 10:40 AM

Received by:

Date/Time: 8/18/16 10:40 AM

Relinquished by:

Date/Time: 8/18/16 2:16 PM

Received by:

Date/Time: 8/18/16 2:16 PM

Relinquished by:

Date/Time:

Received by:

Date/Time:

## Matrix

air ( ) water (X) sludge ( )  
 liquid ( ) soil ( ) solid ( )  
 oil ( ) mixed ( ) other ( )

Specify:

Preservative Codes = PC

- |   |                            |
|---|----------------------------|
| 1. Cool, <6°C   | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> ) pH<2 | 7. Zinc Acetate            |
| 3. Nitric Acid (HNO <sub>3</sub> ), pH<2                | 8. Ascorbic Acid           |
| 4. Hydrochloric acid (HCl)                              | 9. FAS                     |
| 5. Sodium Thiosulfate                                   | 10. Other                  |

## Sample type legend:

grab samples x  
 composite samples xx

Turnaround time: Sampling Equipment:

1 day ( ) Automatic Sampler ( )  
 2 days ( ) Sample Pick Up (X)  
 3 days ( )  
 5 days ( )

Note: normal turnaround time is ten (10) working days;  
 additional charges apply for rush orders.

Original





## REPORT OF ANALYSIS

ATTENTION: Mr. Héctor Ávila  
COMPANY: AES Puerto Rico - Guayama

DATE: August 11, 2016

CONTRACT: AES - Guayama

LAB. SAMPLE ID: BEL-1602498  
SAMPLE COLLECTED BY: Client (Pedro Labayen)  
DATE RECEIVED: 07/27/16

SAMPLE DATE: 07/25/16  
TIME: 4:35AM


DESCRIPTION: Stormwater #003  
LAB. FILE ID: 1602498  
MATRIX: Water

PARAMETER	EPA METHOD	SAMPLE TYPE	UNITS	BEL-1602498 RESULT	METHOD DETECTION LIMIT	ANALYST	DATE ANALYZED
Aluminum	200.7(ICAP)	Grab	mg/L	0.427	0.005	BTR	08/08/16
Iron	200.7(ICAP)	Grab	mg/L	0.337	0.010	BTR	08/08/16
Lead	200.7(ICAP)	Grab	mg/L	<0.002	0.002	BTR	08/08/16
Zinc	200.7(ICAP)	Grab	mg/L	0.061	0.002	BTR	08/10/16

Sample was preserved in the laboratory.

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in the Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

  
Lcda. Iris M. Chévere Alfonso  
Laboratory Director  
Chemist License 2370

Attachment: Chain of Custody Records (1)



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•CERTIFICATION NUMBER E87556•  
CERTIFIED BY THE PUERTO RICO DEPARTMENT OF HEALTH (PRDOH) EPA CODE #PR00012  
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## BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

## CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY <i>AES Guayama</i>	SAMPLER <i>Pedro Lave Yen</i>
SAMPLE LOCATION/CLIENT ID	<i>Storm water 003</i>	TIME <i>4:35</i> <sup>AM</sup> <sub>PM</sub>
SAMPLE DATE	<i>7/25/16</i>	BEL. NO. <i>1602498</i>
		CONTROL NO. <b>187608</b>

## 1. General Environmental:

PC

Acidity ( ) ☐

Ammonia as N ( ) ☐

BOD-5 ( ) ☐

Chloride ( ) ☐

COD ( ) ☐

Conductivity  $\mu$ mhos/cm ( ) ☐

Dissolved Oxygen ( ) ☐

Hardness ( ) ☐

Moisture % ( ) ☐

Nitrite ( ) ☐

Oil+Grease ( ) ☐

Phenol ( ) ☐

Phosphorus, Total ( ) ☐

Sett Solids mg/L ( ) ☐

Sulfate ( ) ☐

Sulfite ( ) ☐

TDS ( ) ☐

Temperature, °C ( ) ☐

TOC ( ) ☐

Asbestos ( ) ☐

TVS ( ) ☐

Total Nitrogen ( ) ☐

## VSS

( ) ☐

Alkalinity ( ) ☐

Bicarbonate ( ) ☐

Bromide ( ) ☐

Chlorine, Res. ( ) ☐

Color (ADMI) ( ) ☐

Color (Pt-Co) ( ) ☐

Cyanide ( ) ☐

Fluoride ( ) ☐

Iodide ( ) ☐

Nitrate ( ) ☐

Nitrate + Nitrite ( ) ☐

pH, S.U. ( ) ☐

Phosphate, Ortho ( ) ☐

Sett. Solids mL/L ( ) ☐

Solids, Total ( ) ☐

Sulfide ( ) ☐

Surfactant ( ) ☐

TSS ( ) ☐

TKN ( ) ☐

Turbidity ( ) ☐

Carbonate ( ) ☐

## PC

Sampling Witness: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_

Date/Time: *7/27/16 11:43 am*

Received by: \_\_\_\_\_

Date/Time: *7/27/16 11:43 am*

Relinquished by: \_\_\_\_\_

Date/Time: *7/27/16 2:28 pm*

Received by: \_\_\_\_\_

Date/Time: *7/27/16 2:28 pm*

Relinquished by: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Received by: \_\_\_\_\_

Date/Time: \_\_\_\_\_

## Matrix

air ( ) water ☒ sludge ( )

liquid ( ) soil ( ) solid ( )

oil ( ) mixed ( ) other ( )

Specify: \_\_\_\_\_

Preservative Codes = PC

- |   |                            |
|---|----------------------------|
| 1. Cool, <6°C   | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> ) pH<2 | 7. Zinc Acetate            |
| 3. Nitric Acid (HNO <sub>3</sub> ), pH<2                | 8. Ascorbic Acid           |
| 4. Hydrochloric acid (HCl)                              | 9. FAS                     |
| 5. Sodium Thiosulfate                                   | 10. Other                  |

## Sample type legend:

grab samples x

composite samples xx

Turnaround time: Sampling Equipment:

- 1 day ( ) Automatic Sampler ( )
- 2 days ( ) Sample Pick Up ☒
- 3 days ( )
- 5 days ( )

Note: normal turnaround time is ten (10) working days;  
additional charges apply for rush orders.

## 2. Metals:

Aluminum (Al) ( ) ☒ *h*

Chromium (Cr) ( ) ☐

Iron (Fe) ( ) ☒ *l*

Manganese (Mn) ( ) ☐

Nickel (Ni) ( ) ☐

Silver (Ag) ( ) ☐

Zinc (Zn) ( ) ☒ *l*

Barium (Ba) ( ) ☐

Antimony (Sb) ( ) ☐

Bismuth (Bi) ( ) ☐

Chromium, VI (CrVI) ( ) ☐

Magnesium (Mg) ( ) ☐

Potassium (K) ( ) ☐

Sodium (Na) ( ) ☐

Thallium (Tl) ( ) ☐

Vanadium (V) ( ) ☐

Cadmium (Cd) ( ) ☐

Copper (Cu) ( ) ☐

Lead (Pb) ( ) ☒ *l*

Mercury (Hg) ( ) ☐

Selenium (Se) ( ) ☐

Tin (Sn) ( ) ☐

Arsenic (As) ( ) ☐

Boron (B) ( ) ☐

Beryllium (Be) ( ) ☐

Calcium (Ca) ( ) ☐

Cobalt (Co) ( ) ☐

Molybdenum (Mo) ( ) ☐

Silicon (Si) ( ) ☐

Strontium (Sr) ( ) ☐

Titanium (Ti) ( ) ☐

Lithium (Li) ( ) ☐

## 3. RCRA/Hazardous wastes

Ignitability (Flash Pt.) ( ) ☐

Reactivity (CN & S) ( ) ☐

RCRA Metals ( ) ☐

Organics-BNA ( ) ☐

TOX ( ) ☐

Corrosivity ( ) ☐

TCLP ( ) ☐

Organics-Pest/Herb ( ) ☐

Organics-VOA ( ) ☐

## 4. Specific Organics

Volatiles ( ) ☐

Pesticides/PCB's ( ) ☐

Herbicides ( ) ☐

BTEX ( ) ☐

TTO & Dioxin ( ) ☐

Phenols GC ( ) ☐

Semi-Volatiles (BNA) ( ) ☐

PCB's Only ( ) ☐

TPH 418.1 ( ) ☐

TTO ( ) ☐

TPH 8015 ( ) ☐

Lindane ( ) ☐

## 5. Microbiology

Fecal Coliform ( ) ☐

Total Coliform ( ) ☐

Comments: *Most samples preserved and**laboratory de Beckton*

Original